

Work Order ID 86558

86558

Page 1

July-05-12 10:23:16 AM

Item ID: D350-591-122 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Heli-Access-Step, RH
 Start Date: 7/05/12 Start Qty: 5.00 ***5*** Cust Item ID:
 Required Date: 7/20/12 Req'd Qty: 5.00 ***5*** Customer:
 Reference:

Approvals: Process Plan: W Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2351	E								
100		0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Document Control	Photocopy bluefile and type labels as per PPP D350-591-122 CHG005								
110		0.00							
110	Large Fab								
Large Fab	Memo	0.00							
Large Fab	1-Cut D2244-116 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G								
	2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.								
130		0.00							
130	BENDING MACHINE - SKIDTUBES								
CNC Bend 1	Memo	0.00							
CNC Delta 100 Bender	Bend as per dwg D2351-042 using cnc bender and Folio FT 012. Use bend prog. D2351-042.								

Handwritten: JDL mls 12-9-18

Handwritten: 5 0 Ae 12.07.09

Handwritten: DP 12/08/01

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Page 2

Item ID: D350-591-122 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Heli-Access-Step, RH
 Start Date: 7/05/12 Start Qty: 5.00 ***5*** Cust Item ID:
 Required Date: 7/20/12 Req'd Qty: 5.00 ***5*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				5	0		
150 *150* Large Fab Large Fab	Large Fab Memo 1-Bevel Fwd and Aft end for welding 2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033 A/RAluminum Rod <u>122/30</u> 3-Do not Grind Flush	0.00 0.00				5	0		12.08.20
160 *160* QC Quality Control	QC9- Inspect visual per QSI004- Fusion Welds Memo	0.00 0.00							

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N900040100

Setup Start *NS1*

Stop *NS2*

Customer:

Run Start *NR1*

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Insp.
Stamp

170

0.00

OC

Memo

Quality Control

0.00

180

180

0.00

HandFinish

Hand Finishing

0.00

190

190

0.00

QC

Quality Control

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N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 7/05/12 **Start Qty:** 5.00 ***5***

Cust Item ID:

Required Date: 7/20/12 **Req'd Qty:** 5.00 ***5***

Customer:

Reference:

Run Start *NR1*

Approvals: _____ **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

[illegible]

Work Order ID 86558

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July-05-12 10:23:16 AM

Item ID: D350-591-122

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Heli-Access-Step, RH

Start Date: 7/05/12 Start Qty: 5.00

5

Cust Item ID:

Required Date: 7/20/12 Req'd Qty: 5.00

5

Customer:

Reference:

Run Start ***NR1***

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250	Chemical Conversion Coat per QSI005 4.1	0.00							
250									
HandFinish	Memo	0.00							
Hand Finishing									
260	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
260									
Powdercoat	Memo	0.00							
Powder Coating									
	START TIME: 10:30								
	FINISH TIME: 11:00								
270	Wing Walk as per dwg QSI005 4.4 Batch 11122500	0.00							
270									
HandFinish	Memo	0.00							
Hand Finishing									

5X0

12/09/14

5X0

12/09/14

x5R11

12/09/14

W121841

32001

11:00

86558

July-05-12 10:23:16 AM

N900040100

Setup Start *NS1*

Stop *NS2*

5

5

Reference:

Run Start *NR1*

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

**Insp.
Stamp**

280

0.00

0.00

290

0.00

Packaging

0.00

300

0.00

Quality Control

Work Order ID 86558

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July-05-12 10:23:16 AM

Item ID: D350-591-122

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Heli-Access-Step, RH

Start Date: 7/05/12 Start Qty: 5.00

5

Cust Item ID:

Required Date: 7/20/12 Req'd Qty: 5.00

5

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

310

0.00

310

Packaging

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D350-591-122 Location: _____ PPP Rev: E

5x

9

12-9-18

320

QC21- Final Inspection - Work Order Release

0.00

320

QC

Memo

0.00

Quality Control

12/9/19

mf 12-09-19

Picklist Print

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Page 1

Work Order ID: 86558

Parent Item: D350-591-122

Parent Item Name: Heli-Access-Step, RH

Start Date: 7/05/12

Required Date: 7/20/12

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP Rev:E02.10.21Re-format; Incorporated D2351-041 IPPKJ/RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
S+ AN3-37A Bolt		Purchased	No			290	Each	467.0000	2	10			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST353		467							
				117619		4							
				119086		463				119086			
S+ AN4-13A Bolt		Purchased	No			290	Each	1,143.0000	3	15			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST357		1143							
				120187		19							
				120422		2							
				120770		12							
				121652		912							
				122063		198							
S+ AN960JD10 Washer	NAS1149D0363J	Purchased	No			290	Each	0.0000	4	20			
										122378			
S+ AN960JD416 Washer	NAS1149D0463J	Purchased	No			290	Each	29.0000	6	30			
										122452			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST351		29							
				116289		8							
				119097		21							
S+ D2230-1 Lug		Manufactured	No			290	Each	240.0000	1	5			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST480		240							
				84135		40							
				84136		200							
										4x84136			

12/09/18

Picklist Print

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Page 2

Work Order ID: 86558

Parent Item: D350-591-122

Parent Item Name: Heli-Access-Step, RH

Start Date: 7/05/12

Required Date: 7/20/12

Start Qty: 5.00

Required Qty: 5.00

D2230-3

Lug

Manufactured No

290 Each 158.0000

~~5~~ 89045 5 20 12/09/18

Location

Loc Qty

Loc Code

ST480

158

83261

2

84133

156

~~17 83261~~

D2244-116

Step Extrusion

Manufactured No

110 Each 70.5000

0.5 2.5

12.07.09

Location

Loc Qty

Loc Code

WA

70.5

80803

70.5

2.5

D2582

Step Leg Assembly

Manufactured No

Each 11.0000

B89203 (X3) 12.09.06

Location

Loc Qty

Loc Code

WA014

11

72804

8

72828

3

(2)

D2673-34

End Plate

Manufactured No

220 Each 79.0000

1 5

12.29.06

Location

Loc Qty

Loc Code

WA

79

84535

79

5

D2850-2

End Cap

Manufactured No

150 Each 7.0000

1 5

12.08.20

Location

Loc Qty

Loc Code

WA016

7

68489

7

5

Picklist Print

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Page 3

Work Order ID: 86558

Parent Item: D350-591-122

Parent Item Name: Heli-Access-Step, RH

Start Date: 7/05/12

Required Date: 7/20/12

Start Qty: 5.00

Required Qty: 5.00

D2856-400

Manufactured No

290

f

168.8425

0.6

89352³ JB

Abrasion Strip

cut (10) at 7.20"

Location

Loc Qty

Loc Code

ST403

159.398

81875

159.398

ST409

9.4445

63735

0.6696

68076

0.3149

71164

8.46

MS20600-AD4W3

Purchased

No

Each

1,288.0000

Cherry Rivets

Location

Loc Qty

Loc Code

ST314

564

~~122151~~

564

ST321

591

111636

36

117601

3

118626

294

120308

258

WA018

133

107939

133

m122452⁸⁰ x 43 te 12.09.16

(3)+34

MS21042113

Nut

Purchased

No

290

Each

3,330.0000

2 10

JB 12/09/18

Location

Loc Qty

Loc Code

ST300

1330

117885

32

119017

771

119075

138

121444

389

ST317

2000

122141

2000

122141

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Shop Packet Print

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Picklist Print

July-05-12 10:23:15 AM

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Work Order ID: 86558

Parent Item: D350-591-122

Start Date: 7/05/12

Required Date: 7/20/12

Parent Item Name: Heli-Access-Step, RH

Start Qty: 5.00

Required Qty: 5.00

~~MS21042L4~~

Purchased

No

290

Each

1,705.0000

3

15

~~122052~~ JB

Nut

Location

Loc Qty

Loc Code

ST300

1705

119075

116

121011

193

121444

1096

121652

300

D2732-030

Manufactured

No

290

Each

28.0000

2

10

83560 JB

Rubber Cushion

cut (2) at 3.00"

measured 3.125"

Location

Loc Qty

Loc Code

ST402

28

84498

28

AN4-16A

Purchased

No

290

Each

127.0000

2

10

JB 12/09/18

Bolt

Location

Loc Qty

Loc Code

ST358

127

120498

14

121444

63

121541

50

121541



DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED H	APPROVED H	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE NTS
A	95.02.15	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

*cut per drawing

Handwritten signature

RELEASED

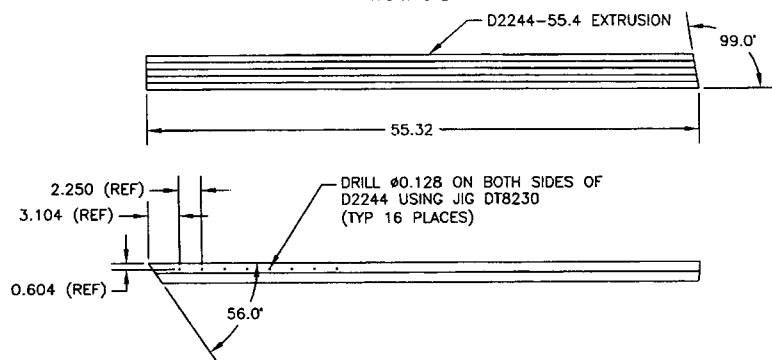
PH
ECN 1105

UNDER REVIEW

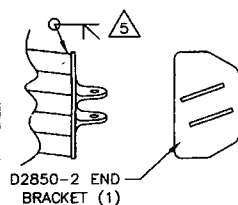
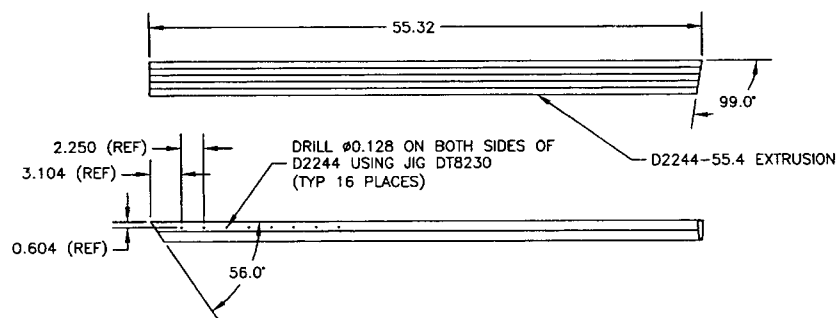
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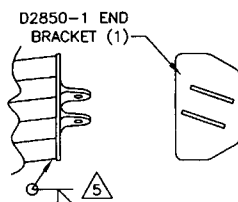
D2351-2 CUTTING/DRILLING DETAIL
RIGHT STEP



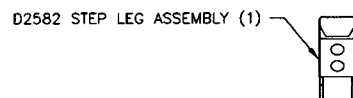
D2351-1 CUTTING/DRILLING DETAIL
LEFT STEP



DETAIL A
SCALE: 1:4



DETAIL B
SCALE: 1:4

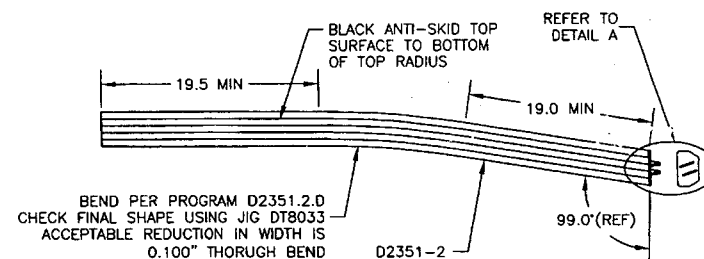


GENERAL NOTES

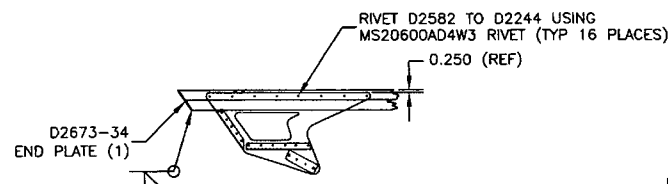
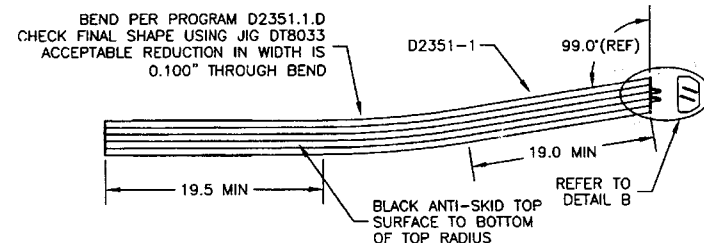
- 1) WELD PER DART QSI 004
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

5) CHAMFER D2244 EXTRUSION 0.075"x45° BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

D2351-042 BENDING/ASSEMBLY DETAIL
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL
LEFT STEP



RELEASED
05.11.28

UNDER REVIEW

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DESIGN KE	DRAWN BY PH	DART	DART AEROSPACE LTD. HAMPSHIRE, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 2 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE 1:12

5. PARTS LIST

Qty -111A	Qty -113	Qty -115	Qty -117A	Qty -119	Qty -133	Part Number	Description
X						D350-591-111A	Heli-Access-Step ™, Long Step – High Skid
	X					D350-591-113	Heli-Access-Step ™, Short Step – High Skid
		X				D350-591-115	Heli-Access-Step ™, Short Step – Low Skid
			X			D350-591-117A	Heli-Access-Step ™, Pre-Flight Step
				X		D350-591-119	Heli-Access-Step ™, Long Step – Low Skid
					X	D350-591-133	Heli-Access-Step ™, Aft Maintenance Step
	1					D2310	STEP ASSEMBLY (HIGH-SHORT)
1						D2311	STEP ASSEMBLY (HIGH-LONG)
		1				D2354	STEP ASSEMBLY (LOW-SHORT)
				1		D2355	STEP ASSEMBLY (LOW-LONG)
					1	D2946-041	STEP ASSEMBLY (MAINTENANCE)
4	2	2	2	2		D2171	CLAMP
4	2	2	2	2		D2182B035	CUSHION
					4	D2230-1	MOUNTING LUG
					4	D2230-3	MOUNTING LUG
8	4	4	4	4		D2274	RADIUS BLOCK
			1			D2362-041	SUPPORT BRACKET
2	1			1		D2362-3	SUPPORT BRACKET
		1				D2362-5	SUPPORT BRACKET
2	1	1	1	1	2	D2856-400-720	ABRASION STRIP
					1	D2945	MOUNTING PLATE
2	2	2		2		AN3-37A	BOLT
					2	AN4-7A	BOLT
					4	AN4-11A	BOLT
					8	AN4-14A	BOLT
		4				AN4-16A	BOLT
8	4			4		AN4-20A	BOLT
1	1	1	4	1		AN4-22A	BOLT
4	4	4		4		AN960JD10	WASHER
10	6	2	4	6	14	AN960JD416	WASHER
		4				AN960JD416L	WASHER
2	2	2		2		MS21042L3	NUT
9	5	5	4	5	14	MS21042L4	NUT

Qty -121	Qty -122	Qty -123	Qty -124	Part Number	Description
X				D350-591-121	Heli-Access-Step ™, Short Step – High Skid, LH
	X			D350-591-122	Heli-Access-Step ™, Short Step – High Skid, RH
		X		D350-591-123	Heli-Access-Step ™, Short Step – Low Skid, LH
			X	D350-591-124	Heli-Access-Step ™, Short Step – Low Skid, RH
1				D2351-041	STEP ASSEMBLY (HIGH-SHORT, LH)
	1			D2351-042	STEP ASSEMBLY (HIGH-SHORT, RH)
		1		D2356-041	STEP ASSEMBLY (LOW-SHORT, LH)
			1	D2356-042	STEP ASSEMBLY (LOW-SHORT, RH)
1	1	1	1	D2230-1	MOUNTING LUG
1	1	1	1	D2230-3	MOUNTING LUG
1	1	1	1	D2856-400-720	ABRASION STRIP
2	2	2	2	AN3-37A	BOLT
3	3	3	3	AN4-13A	BOLT
4	4	4	4	AN960JD10	WASHER
6	6	6	6	AN960JD416	WASHER
2	2	2	2	MS21042L3	NUT
3	3	3	3	MS21042L4	NUT

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Revision: G
Date: 08.10.06

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G OR EARLIER
AND
INSTRUCTIONS OF CONTINUED AIRWORTHINESS ICA-D350-591 REV. 2 OR EARLIER

REF CANADIAN STC: SH9246
REF FAA STC: SH967NE

REFERENCE ONLY

For D350-591-121/-122/-123/-124/-133 steps, customers have the option of installing D2732-030 cushions under the D2230-1/-3 clamps to accommodate varying crosstube diameters and to improve fit. It is also acceptable to use longer or shorter AN4 bolts, and/or extra AN960JD416 washers under the nut to ensure 1.5 to 4 threads in safety. See Figure 1 on sheet 2 of this service instruction for reference.

For D350-591-121/-122 steps at CHG 005, D350-591-123/-124 steps at CHG 004, and D350-591-133 steps at CHG 003, the parts list of D350-591 Rev. G and ICA-D350-591 Rev. 2 is amended as follows:

ADD:

Qty -121	Qty -122	Qty -123	Qty -124	Qty -133	Part Number	Description
X					D350-591-121	Heli-Access-Step™, Short Step – High Skid, LH
	X				D350-591-122	Heli-Access-Step™, Short Step – High Skid, RH
		X			D350-591-123	Heli-Access-Step™, Short Step – Low Skid, LH
			X		D350-591-124	Heli-Access-Step™, Short Step – Low Skid, RH
				X	D350-591-133	Heli-Access-Step™, Aft Maintenance Step
2	2	2	2	8	D2732-030	CUSHION
2	2	2	2	8	AN4-16A	BOLT

The DSI-9459-011 kit is available for customers with earlier model D350-591-121/-122/-123/-124 steps. Longer AN4 bolts are provided to fasten the clamps. The DSI-9459-013 kit is available for customers with earlier model D350-591-133 steps.

Qty -011	Qty -013	Part Number	Description
X		DSI-9459-011	Rubber Cushion Kit (for -121/-122/-123/-124 steps)
	X	DSI-9459-013	Rubber Cushion Kit (for -133 steps)
2	8	D2732-030	CUSHION
2	8	AN4-16A	BOLT

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: 09.06.24
CERT. NO.: SH92-6
ISSUE NO.: 11

B	AN4-16A WAS -17A FOR -013/-133 KIT	CP	09.06.24
A	NEW ISSUE	CP	09.04.17
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	DART AEROSPACE LTD	
DRAWN	<i>[Signature]</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	DSI 9459	SHEET 1 OF 2
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	OPTIONAL CLAMP MODIFICATIONS	NTS
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